high ion currents or multiple nozzles (nozzle arrays) are employed. The accompanying significant increase in gas flow is compensated by the increase in the number of stages of differential pumping. This may for example be implemented by using intermediate stages of those pumps that are already employed.

[0097] Ion transfer channels described in this application lend themselves to be multiplexed into arrays, with adjustment of pumping as described above. Such an arrangement could become optimum for multi-capillary or multi-sprayer ion sources.

What is claimed is:

1. An ion transfer arrangement for transporting ions between a relatively high pressure region and a relatively low pressure region, comprising:

an electrode assembly defining an ion transfer channel having a longitudinal axis, the electrode assembly including a first plurality of electrodes extending along the longitudinal axis a first distance D**1**, and a second plurality of electrodes extending along the longitudinal axis a second distance D**2**>D**1** and being arranged in alternating relation with the said first plurality of electrodes; and

means for supplying a DC voltage of a first polarity $+V_1$ to the first plurality of electrodes and for supplying a DC voltage $-V_2$ ($|V_1|>|V_2|$) of a second polarity, relative to the average voltage distribution in the longitudinal direction of the electrode assembly, to the second plurality of electrodes.

2.-**25**. (canceled)

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